Abstract

An apparatus and methods for real-time policy evaluation in support of network management and service provisioning are presented. The apparatus includes a policy repository, a scheduler, a triggering module, a pre-computation module. A policy equivalency class association is determined for each policy-managed entity, policy, policy-managed information flow of information and/or any part of a communication network. Policy conditions are divided into triggering and passive conditions. The scheduler prioritizes policy evaluation for policies associated with passive conditions for entire policy equivalency classes applicable to large numbers of policy-managed entities. Real-time events and updates are trapped via triggering conditions and related policy evaluation is performed for the entire policy equivalency class, for a large number of policy-managed entities, in real-time. A policy decision distribution mechanism provides policy-managed entities with policy decisions for enforcement. Policy evaluation includes changing the association of a policy-managed device with a group of policy equivalency classes. Advantages are derived from real-time policy evaluation of policies related to entire policy equivalency classes, each policy equivalency class being associated with large numbers of policy-managed entities.